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10/627,102	07/25/2003	Stanley Chincheck	84,150	2238

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NAVAL RESEARCH LABORATORY
ASSOCIATE COUNSEL (PATENTS)
CODE 1008.2
4555 OVERLOOK AVENUE, S.W.
WASHINGTON, DC 20375-5320

EXAMINER

ANANTHANARAYANAN, RAMYA

ART UNIT	PAPER NUMBER
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2131

DATE MAILED: 05/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/627,102

Applicant(s)

CHINCHECK ET AL.

Examiner

Ramya Ananthanarayanan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☒ Claim(s) 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on June 17, 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

1. Claims 1-20 have been examined.

Drawings

2. The drawings are objected to because of a discrepancy between a description of a drawing in the specification and the drawing itself. Specifically, in Figure 7, item S20 is described as 'the high wrapper receives an acknowledgment from the high application program'. In the drawing itself, item S20 has an identical description to s18, which is stated as 'high wrapper sends an application message to the high application program'.

3. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

4. The disclosure is objected to because of an improper incorporation by reference. The attempt to incorporate subject matter into this application by reference to "A Network Pump" by Kang et al., IEEE Transactions on Software Engineering, Vol. 22, No. 5, May 1996 is improper because only patents are subject matter allowed to be incorporated by reference into a patent application.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term "minimizing" in claim 1 is a relative term which renders the claim indefinite. The term "minimizing" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The examiner will not treat the specific limitation in the claim, 'while minimizing data communication from the first network to the second network', that pertains to the indefinite term.

7. Claims 18 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 18 recites the limitation "the high memory" in line 5. There is insufficient antecedent basis for this limitation in the claim.

8. Claim 19 is objected to under 35 U.S.C. 112, second paragraph, as having a typographical error. Claim 19 recites the limitation "the system of claim 19" in line 1, instead of the limitation "the system of claim 18". The examiner will treat the claim as having a corrected limitation of "the system of claim 18".

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1, 2, 11, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Kang et al. ("Design and Assurance Strategy for the NRL Pump").

11. With respect to claim 1, Kang et al. disclose, in a communication system having a plurality of networks, a method of achieving network separation between first and second networks comprising:

Defining the first network with a first degree of trust (page 56, Design Overview, 2nd paragraph);

Defining the second network with a second degree of trust that is lower than the first degree of trust (page 56, Design Overview, 2nd paragraph);

Enabling communication between first and second networks via a network interface system using a communication protocol implemented in an application layer of a communication protocol stack (Figure 1); and

Enabling data communication from the second network to the first network while minimizing data communication from the first network to the second network (page 56, Design Overview, 2nd paragraph).

12. With respect to claim 2, Kang et al. disclose a method, further comprising:

Enabling applications operating on the second network to pass information to applications operating on the first network (page 56, Design Overview, 2nd paragraph); and

Configuring the network interface system into first and second regions for performing respective processing tasks of the first and second networks (page 62, column 1, paragraph 1).

13. With respect to claim 11, Kang et al. disclose a network separation method for achieving network separation between first and second networks of a communication system, comprising:

Providing a computer server configured to have a communication protocol stack implemented in an application layer (Figure 1); and

Enabling data communication from the second network to the first network via the computer server (page 56, Design Overview, 2nd paragraph), the first network having a higher degree of trust than the second network (page 56, Design Overview, 2nd paragraph), and wherein rate of acknowledgment of messages by the computer server is probabilistic derived from a mean

rate based on a moving average of the rate at which the first network accepts messages sent from the second network (page 56, Design Overview, 2nd bullet).

14. With respect to claim 20, Kang et al. disclose a network separation system for achieving network separation between first and second networks of a communication system, comprising:

Means for providing a computer server configured to have a communication protocol stack implemented in an application layer (Figure 1); and

Means for enabling data communication from the second network to the first network via the computer server (page 56, Design Overview, 2nd paragraph), the first network having a higher degree of trust than the second network (page 56, Design Overview, 2nd paragraph, and wherein the rate of acknowledgment of messages by the computer server is probabilistic with a mean rate based on a moving average of the rate at which the first network accepts messages sent from the second network (page 56, Design Overview, 2nd bullet).

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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16. Claims 3-9, 12-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kang et al. ("Design and Assurance Strategy for the NRL Pump") in view of Wilkes et al. (U.S. Patent 5,448,698).

17. Kang et al. and Wilkes et al. are analogous art because both are in the field of electronic communication.

18. With respect to claim 3, Kang et al. do not disclose a method, wherein the configuring includes implementing the network interface system with distinct sets of first and second processors, the first and second processors having a shared memory.

Wilkes et al. disclose a method, wherein the configuring includes implementing the network interface system with distinct sets of first and second processors (Figure 1), the first and second processors having a shared memory (Abstract).

19. It would have been obvious to one of ordinary skill in the art at the time of the invention to have combined the teachings of Wilkes et al. with the teachings of Kang et al. in order to for the sender to have control over whether or not a message is successfully delivered to a receiver and avoid sending messages if the receiver is unable to store them (column 4, lines 40-67, through column 5, lines 1-7).

20. With respect to claim 4, Kang et al. disclose a method, further comprising:

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Defining addresses in a user configuration table of the network interface system (page 60, column 1, 2nd paragraph, 3rd bullet);

Accepting information sent from the second network and only from addresses matching the addresses defined in the user configuration table (page 60, column 1, 2nd paragraph, 3rd bullet);

Configuring a protocol for use with the network interface system such that only valid connection requests are initiated via the protocol (page 59, 1st paragraph).

21. With respect to claim 5, Kang et al. disclose a method, wherein the network interface system protocol enforces connection limits on data transfer to prevent saturation of the network interface system by a connection initiated from the second network (page 59, 1st paragraph).

22. With respect to claim 6, Kang et al. disclose a method, further comprising:

Configuring the interprocessor communication channel to communicate moving averages from the first network to the second network (page 56, Design Overview, 2nd bullet); and

Configuring the network interface system to prevent the shared memory from overflowing by controlling the rate at which messages are acknowledged by the network interface system (page 56, Design Overview, 2nd bullet).

23. Kang et al. do not disclose a method, further comprising:

Enabling communications between the first and second regions via an interprocessor communication channel; and

Enabling data communication from the second network to the first network via the interprocessor communication channel.

Wilkes et al. disclose a method, further comprising:

Enabling communications between the first and second regions via an interprocessor communication channel (Figure 1); and

Enabling data communication from the second network to the first network via the interprocessor communication channel (Figure 1).

24. The motivational benefits of combining the teachings of Wilkes et al. with the teachings of Kang et al. have been disclosed above.

25. With respect to claim 7, Kang et al. disclose a method, wherein the rate of acknowledgments is probabilistic, derived from a mean rate based on a moving average of the rate at which the first network is accepting messages from the second network (page 57, 1st column, 1st paragraph).

26. With respect to claim 8, Kang et al. disclose a method, further comprising:

Configuring an application program loaded in the network interface system to support the protocol such that each application on the first and second networks using the network interface system communicates with a first and second application program interfaces, respectively, of the first and second networks (Figure 1).

27. With respect to claim 9, Kang et al. disclose a method, further comprising:

Accepting acknowledgments, at the application protocol layer, for messages transmitted from the network interface system to the first network (page 56, Design Overview, 2nd bullet);

Communicating acknowledgment data from the network interface system to the second application program interface, the acknowledgments delivered in a fixed, predefined format (page 56, Design Overview, 2nd bullet); and

Wherein, the acknowledgments provided to the second application program interface indicates that the network interface system successfully received data to be transmitted and stored in the shared memory, and wherein the acknowledgment data is generated by the network interface system (page 56, Design Overview, 2nd bullet).

28. With respect to claim 12, Kang et al. disclose a method, further comprising:

Configuring the server into first and second regions for performing respective processing tasks of the first and second networks (page 62, column 1, paragraph 1);

Defining addresses in a user configuration table configured in the server (page 60, column 1, 2nd paragraph); and

Accepting information sent from the second network and only from addresses matching the addresses defined in the user configuration table (page 60, column 1, 2nd paragraph, 3rd bullet).

29. Kang et al. do not disclose a method, further comprising:

Wherein the configuring includes implementing the server with distinct sets of first and second processors and distinct sets of first and second memory, and the first and second processors having a shared memory.

Wilkes et al. disclose a method, further comprising:

Wherein the configuring includes implementing the server with distinct sets of first and second processors (Figure 1) and distinct sets of first and second memory (Figure 1), and the first and second processors having a shared memory (Abstract).

30. The motivational benefits of combining the teachings of Wilkes et al. with the teachings of Kang et al. have been disclosed above.

31. With respect to claim 13, Kang et al. disclose a method, further comprising:

Configuring a communication protocol for use with the server such that only valid connection requests are initiated via the protocol (page 59, 1st paragraph), and wherein the server is configured to communicate moving averages from the first network to the second network (page 56, Design Overview, 2nd bullet), and wherein the protocol is configured to enforce connection limits on data transfer to prevent saturation of the server by a connection initiated from the second network (page 59, 1st paragraph).

32. With respect to claim 14, Kang et al. disclose a system for achieving network separation between first and second networks of a communication system, comprising:

The first network having a higher degree of trust than the second network (page 56, Design Overview, 2nd paragraph); and

Wherein a rate of acknowledgment of messages by the system is probabilistic derived from a mean rate based on a moving average of the rate at which the first network accepts messages sent from the second network (page 56, Design Overview, 2nd bullet).

33. Kang et al. do not disclose a system, comprising:

A first processor for processing information from the first network; and

A second processor for processing information from the second network.

Wilkes et al. disclose a system, comprising:

A first processor for processing information from the first network (Figure 1); and

A second processor for processing information from the second network (Figure 1).

34. The motivational benefits of combining the teachings of Wilkes et al. with the teachings of Kang et al. have been disclosed above.

35. With respect to claim 15, Kang et al. disclose a system, further comprising:

An interface configured to enable communications from the second network to the first network, and selectively route information from the first network to the second network (Figure 1);

A communication protocol stack implemented in an application layer (Figure 1); and

First and second application program interfaces configured to interface with application programs of first and second networks, respectively (Figure 1).

36. With respect to claim 16, Kang et al. do not disclose a system, wherein the first processor has first memory, the second processor has second memory, and the first and second processors have a shared memory.

Wilkes et al. disclose a system, wherein the first processor has first memory (Figure 1), the second processor has second memory (Figure 1), and the first and second processors have a shared memory (Abstract).

37. The motivational benefits of combining the teachings of Wilkes et al. with the teachings of Kang et al. have been disclosed above.

38. With respect to claim 17, Kang et al. disclose a system, wherein the configuration table, having address information such that the first network is configured to accept information sent from the second network only from addresses matching the addresses defined in the user configuration table is provided from the first processor and first memory to the second processor and second memory through the shared memory (page 60, column 1, 2nd paragraph, 3rd bullet).

39. With respect to claim 18, Kang et al. disclose a system, wherein the protocol enforces connection limits on data transfer to prevent saturation of the system by a connection initiated from the second network (page 59, 1st paragraph), and wherein the interface is configured to

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communicate a value based on the moving averages from the first network to the second network, and to prevent the high memory from overflowing by controlling the rate at which messages are acknowledged by the system (page 56, Design Overview, 2nd bullet).

40. Claims 10 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kang et al. ("Design and Assurance Strategy for the NRL Pump") herewith referred to as Kang et al (1998) and Wilkes et al. (U.S. Patent 5,448,698) in view of Kang et al. ("A Network Pump") herewith referred to as Kang et al. (1996).

41. Kang et al. (1999), Wilkes et al. and Kang et al. (1996) are analogous art because all are in the field of electronic communication.

42. With respect to claim 10, Kang et al. (1998) disclose a method wherein, for each active connection, a distinct variable is maintained that reflects a moving average of the time it takes for the first application program interface to accept messages from the second network (page 62, column 2, paragraph 2); and

Receiving messages at the application layer, wherein information flow from the first application program interface to the second application program interface occurs through changes in values of the moving average (page 62, column 2, paragraph 2).

43. Kang et al. (1998) and Wilkes et al. do not disclose a method wherein, for each active connection:

Randomly delaying messages received from the second application program interface over the active connection based on the moving average using a random variable of a pseudo-exponential or similar type.

Kang et al. (1996) disclose a method wherein, for each active connection:

Randomly delaying messages received from the second application program interface over the active connection based on the moving average using a random variable of a pseudo-exponential or similar type (page 332, Section 3.1.3).

44. It would have been obvious to one of ordinary skill in the art at the time of the invention to have combined the teachings of Kang et al. (1996) with the combined teachings of Kang et al. (1998) and Wilkes et al. in order to maintain a fair number of messages in the output buffer so as not to overload the receiving buffer (page 332, Section 3.1.3).

45. With respect to claim 19, Kang et al. disclose a system, wherein for each active connection, the system maintains a distinct variable that reflects a moving average of the time it takes for the first application program interface to accept messages from the second network (page 62, column 2, paragraph 2), and further wherein information flow from the first application program interface to the second application program interface occurs through changes in the moving average values (page 62, column 2, paragraph 2).

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46. Kang et al. (1998) and Wilkes et al. do not disclose a method wherein, for each active connection, messages received from the second application program interface are delayed based on the moving average using a random variable of a pseudo-exponential or similar type.

Kang et al. (1996) disclose a method wherein, for each active connection, messages received from the second application program interface are delayed based on the moving average using a random variable of a pseudo-exponential or similar type (page 332, Section 3.1.3).

47. The motivational benefits of combining the teachings of Kang et al. (1996) with the combined teachings of Kang et al. (1998) and Wilkes et al. have been disclosed above.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent 5,867,647 to Haigh et al. meets the limitations of the first independent claim and some of its dependent claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramya Ananthanarayanan whose telephone number is (571) 272-5860. The examiner can normally be reached on Monday through Friday, 8:30 -5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on (571) 272-3795. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RA


AYAZ SHEIKH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100